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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/413,738	10/06/1999	KENNETH M. BUCKLAND	062891.0338	2364

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EXAMINER
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LEE, TIMOTHY L

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 02/20/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/413,738

Applicant(s)

BUCKLAND ET AL.

Examiner

Timothy Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-10, 12-17, 19-25, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naohiro (US 6,317,414) in view of Bobey et al. (US 4,736,465).
3. Regarding claims 1, 8, 9, 13, 16, 23, 24, 31, and 32, Naohiro discloses a signal switching method and apparatus configured to operate in an ATM network (ATM network). See col. 5, lines 11-15, and also Fig. 1. From Fig. 1, it can be seen that the network contains a plurality of paths, VP1 and VP2, that end in a common destination (plurality of paths to a common destination). The signal 5-1 enters the network at Node 1. The node distributes identical copies down paths VP1 and VP2 (plurality of copies). Node 3 has detection sections 5-6 and 5-5, which receives traffic from VP2 and VP1, respectively (receiving ATM traffic from a traffic source, each one of the paths having a receive circuit). See also col. 6, lines 41-57. The selector 5-7 selects the virtual path input that will continue on to 5-8, so that only one qualified copy is switched and passed through the system. Figs. 4-9 support the fact only one qualified copy of traffic chosen to be sent through the ATM switch. For example, in Fig. 4, the signal originates in node 1-22 and its destination is node 9, where the selector is located. Nodes 2, 3, 4, 7, and 8 act as intermediary nodes, very similarly to how node 16 of Fig. 1 in the application acts as an intermediary node. After reaching the selector, only one qualified copy of traffic is allowed to

continue to 1-27. As can be seen in Fig. 1, an ATM switch can be construed as being selector 5-7, and the switch only connects to one of the paths at a given time (configuring an ATM switch to provide a route to a common destination). See Fig. 1, and col. 6, lines 41-57. The selector chooses the correct virtual path by selecting a signal closer to normality out of the plurality of signals (determining a qualified copy of the traffic). See part (e) of claim 1. Naohiro also discloses that if some failure occurs between the node 1 and node 3 and the VPI is damaged, a VP AIS is inserted into the VP1 at VP AIS inserting portion 5-4 in the mode 4, for example. In this case, VP AIS detecting portion 5-5 detects the VP AIS of the VP1 and the selector selects the other path. See col. 6, lines 47-57. The timing of this selection when the VP AIS is inserted into the path, which will be before the traffic reaches the switch (before the traffic reaches the ATM switch). Naohiro does not expressly disclose discarding the copy of traffic that is not chosen. Bobey et al. discloses discarding the duplicate copy of traffic if it isn't as qualified as the other copy of traffic that arrives at a destination. See Fig. 1, and col. 5, lines 10-28. It would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the discarding of the unqualified copy of traffic taught by Bobey et al. in the system disclosed by Naohiro. One would have been motivated to do this because these unqualified copies are no longer needed in the system.

4. Regarding claim 9, it would have been obvious to have the AIS detecting sections act as receive circuits, where the receive circuits communicate determine if an AIS signal has been received and discard the an unqualified copy of traffic in way that Bobey et al. discloses discarding a packet. One of ordinary skill in the art would have been motivated to do this for the

same reasons as stated above—the system must deal with the unqualified copy of traffic somehow, so discarding it seems like a logical solution.

5. Regarding claim 16, if the unqualified packet is discarded as mentioned previously, then only the qualified copy will reach the switch.

6. Regarding claims 2, 4, 10, 14, 17, 19, 25, 27 and 29, Naohiro discloses that an Alarm Indicating Signal can be inserted into the virtual path to indicate if a failure occurs, and this information can be used by the detecting sections to determine which path is selected (determining comprises receiving management cells on a path indication AIS, LOC, or BER, and receive circuit is operable to receive management traffic on a path indication degradation or loss of signal). See Fig. 1, and col. 6, lines 41-57.

7. Regarding claims 5, 6, 12, 20, 21 and 28, the AIS is qualifying information that tells the detecting sections and the selector which of VP should be switched through and which should be discarded at the receive circuits. In order for the receive circuits to know which VP should be discarded, the receive circuits must somehow communicate with each other. See Fig. 1, and col. 6, lines 41-57.

8. Regarding claims 7, 15, 22 and 30, Fig. 1 discloses a ring where the path 5-2 travels in a clockwise direction and path 5-3 travels in a counterclockwise direction around the ring (wherein the paths comprise a first in a first direction around a SONET UPSR and a second path in a second direction around the SONET UPSR).

9. Claims 3, 11, 18, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naohiro in view of Bobey et al. in further view of Rubino et al. (US 6,424,629). Claims 3, 11, and 18 are dependent on claims 1, 9 and 16, respectively, so the rejections made to those claims

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also apply here. Naohiro does not expressly disclose using a keep-alive signal to determine a qualified copy of traffic. Rubino et al. discloses detecting periodic keep-alive messages to indicate that the channel is still active. It would have been obvious to a person of ordinary skill in the art at the time of the invention to add a keep-alive signal into the signal switching that Naohiro discloses. One of ordinary skill in the art would have been motivated to do this because using a keep-alive signal is just another way of detecting the quality of a path and thus determining which signal would be more qualified.

### ***Response to Arguments***

10. Applicant's arguments filed December 15, 2003 have been fully considered but they are not persuasive. In response to Applicant's argument that Naohiro does not disclose determining a qualified copy of traffic **before the traffic reaches the ATM switch**, the Examiner respectfully disagrees. As now discussed in the rejection above, a node in a certain path sends a VP AIS signal immediately when it realizes that there is a fault in the path. The AIS travels to the detecting sections 5-5 and 5-6 of Fig. 1, where upon receiving an AIS, these detecting sections will inform the selector to choose the traffic coming from the other path. Thus, the selector will have made a decision before the traffic reaches the switch. Because the selector makes a decision before the traffic reaches the switch, Naohiro does disclose this feature.

### ***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Lee whose telephone number is (703)305-7349. The examiner can normally be reached on M-F, 9-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703)305-4744. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TLL  
Timothy Lee  
February 10, 2004



HASSAN KIZOU  
SUPERVISORY PATENT EXAMINER  
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